CLAIMS

[1] A cancer gene therapeutic drug comprising a combination of: a virus for immunological treatment to be administered for inducing a CTL reaction within a living body to administration of a carrier cell; and a carrier cell to be infected with an oncolytic virus before the administration so as to make the oncolytic virus act on a tumor cell within the living body.

[2] The cancer gene therapeutic drug according to claim 1, wherein the virus for immunological treatment and the oncolytic virus are selected from adenovirus, herpes virus, lentivirus such as HIV virus, retrovirus, reovirus, vesicular stomatitis virus (VSV) and any other oncolytic viruses.

[3] The cancer gene therapeutic drug according to claim 1 or 2, wherein the virus for immunological treatment is a non-proliferative type and/or an inactivated virus.

[4] The cancer gene therapeutic drug according to any one of claims 1 to 3, wherein the carrier cell is selected from A549 cell, 293 cell, SW626 cell, HT-3 cell, PA-1 cell and any other human derived cancer cell or normal cell.

[5] The cancer gene therapeutic drug according to claim 1, wherein the oncolytic virus to be infected to the carrier cell has 1A1.3B promoter, midkine promoter, β-HCG promoter, SCCA1 promoter, cox-2 promoter, PSA promoter or another tumor specific promoter, according to a kind of cancer to be treated etc.

[6] The cancer gene therapeutic drug according to claim 1, further comprising atelocollagen.

[7] The cancer gene therapeutic drug according to claim 1, further comprising a GM-CSF expression vector to be infected to the carrier cell before administration.

[8] The cancer gene therapeutic drug according to claim 1 , further comprising an iron preparation and/or a porphyrin compound.

[9] The cancer gene therapeutic drug according to claim 1, further comprising a tumor cell to be administered for tumor vaccination.

[10] A cancer gene therapeutic method comprising a step for administration of a virus for immunological treatment to induce a CTL reaction within a human body to administration of a carrier cell; and after a predetermined period, a step for at least one administration of a carrier cell to be infected with an oncolytic virus before the administration so as to make the oncolytic virus act on a tumor cell within the human body.

[11] The cancer gene therapeutic method according to claim 10, wherein the period from administration of the virus for immunological treatment to administration of the carrier cell is set about two weeks or more, and not more than 13 weeks.

[12] The cancer gene therapeutic method according to claim 10, wherein the administration rate of the virus for immunological treatment is set between about 10^5 viral particles and 10^{11} viral particles for a patient with antibody negative to the virus, while it is set about 10^7 viral particles or less for a patient with antibody positive to the virus.

[13] The cancer gene therapeutic method according to claim 10, wherein one administration rate of the oncolytic virus through the carrier cell is set between about 10^9 viral particles and 10^{14} viral particles.

[14] The cancer gene therapeutic method according to claim 10, wherein the amount of infection of the oncolytic virus to the carrier cell is set between about 0.1 viral particles/cell and 2,000 viral particles/cell.

[15] The cancer gene therapeutic method according to claim 10, administrating the carrier cell by intratumor injection.

[16] The cancer gene therapeutic method according to claim 10, administrating atelocollagen together with the carrier cell.

[17] The cancer gene therapeutic method according to claim 10, administrating the carrier cell infected with not only the oncolytic virus but also a GM-CSF expression vector.

[18] The cancer gene therapeutic method according to claim 10, administrating an iron preparation and/or a porphyrin compound, together with the carrier cell.

[19] The cancer gene therapeutic method according to claim 10, administrating a tumor cell for tumor vaccination, together with, before or after administration of the virus for immunological treatment.